

REMARKS

Claims 1 and 3-7 are pending. Claims 1 and 6 are amended to incorporate material from claim 2. Additional basis for the amendment can be found at page 15, lines 13-20 of the specification. Claim 2 is canceled as redundant.

Claim Rejection Under 35 U.S.C. § 102

Claim 1 was rejected under 35 U.S.C. § 102(b) as allegedly anticipated by European Patent Publication No. 0730044A2 ("the Utsumi publication"). The rejection is rendered moot by the incorporation of material from claim 2 which was not subject to the rejection.

Claim Rejections Under 35 U.S.C. § 103

Rejection based on the Nakahira Abstract in view of the Utsumi publication

Claims 1-5 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over Japanese Patent Publication abstract JP 06087657 ("the Nakahira Abstract") in view of the Utsumi publication. Applicants traverse the rejection

To establish a *prima facie* case of obviousness, there must be some reason, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007). Moreover, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The reason to make the claimed combination, and a reasonable expectation of success, must be found elsewhere than in Applicants disclosure, such as in the prior art, the nature of the problem to be solved, or in the knowledge/understanding of the person of ordinary skill in the art. MPEP § 2143; *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The rejection put forth by the Office does not meet these requirements.

The cited art has numerous deficiencies both individually and as combined teachings. As noted by the Office, the Nakahira Abstract lacks a teaching of a coating on ceramic fibers. Office Action at page 3. Applicants note that, in addition to the aforementioned defect, this reference does not teach or suggest a boron-aluminum-nitride coating composition. While the Office Action (page 3) asserts a teaching of a nanocomposite material comprising nitride

of aluminum and boron and having nitride particles dispersed in the nanocomposite, Applicants do not find such a teaching in the Nakahira Abstract. The Nakahira Abstract also does not teach use of a coated fiber within the matrix. The Utsumi publication is asserted to provide a boron-aluminum-nitride composition. Office Action at page 3. As admitted by the Office, however, the Utsumi publication does not teach use of a fibrous substrate. *Id.*

Concerning claim 1, the Nakahira Abstract lacks a teaching of a ceramic fiber having the claimed coating of amended claim 1. The Utsumi publication does not cure this defect for at least the reason that it contains no teaching of at least one of aluminum nitride (AlN) and aluminum oxynitride (AlON) is nanodispersed in boron nitride. Applicants submit that a *prima facie* case of obviousness is not established.

In regard to claims 3 and 4, these claims concern a ceramic matrix composition that contains ceramic fibers which are coated with boron-aluminum-nitride composition. The cited art, even if properly combinable,¹ does not teach or suggest all the claim limitations. The Nakahira Abstract lacks a teaching of a coating on a fiber contained within a matrix as well as the identity of the coated fiber. The Utsumi publication does not cure these defects. For at least these reasons, the rejection should be withdrawn.

Further, the Office alleges that it would have been obvious to coat the fibers in the material of the Utsumi publication to enhance the bond strength between the fibers and the matrix. Office Action at page 3. There is nothing in the Office Action, other than the mere allegation itself, to support this position. Nowhere does the Office point to the cited art or general knowledge within the art to support this allegation. Without more, such an allegation cannot contribute to a *prima facie* case of obviousness.

Finally, the cited art does not teach or suggest extracting metal to form a carbon layer on a ceramic carbide fiber as recited in step (a) of claim 5. For at least this reason, the cited art does not render claim 5 obvious.

Rejection based on the Utsumi publication in view of the Nakahira Abstract

Claims 3 and 6-7 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over the Utsumi publication and the Nakahira Abstract. As admitted by the Office, the Utsumi

¹ This is a point that Applicants do not concede.

publication does not teach the element of a fibrous substrate. Office Action at page 3. In regard to claim 3, the Utsumi publication also does not teach use a boron-aluminum-coated fiber within a ceramic matrix. The Nakahira Abstract does not cure this defect. For at least this reason, the rejection should be withdrawn as applied to claim 3.

With regard to claims 6 and 7, the Utsumi publication is deficient in at least the lack of teaching of a dispersion of aluminum nitride (AlN) or aluminum oxynitride (AlON) in boron nitride. The Nakahira Abstract does not cure this defect. Withdrawal of the rejection is respectfully requested.

Further, as noted above, the alleged motivation to coat the fibers to enhance bonding at the fiber matrix interface is not supported by any basis in the art.

Conclusions

Applicants believe the foregoing constitutes a complete response to the Office Action and submit that all pending claims are in condition for allowance. An early Office Action to that effect is, therefore, earnestly solicited. If necessary, the Examiner is invited to telephone Applicant's attorney at the number provided to facilitate prosecution of the application.

Respectfully submitted,

Date: April 14, 2009

/John A. Harrelson, Jr./
John A. Harrelson, Jr., PhD
Registration No. 42,637

Woodcock Washburn LLP
Cira Centre
2929 Arch Street, 12th Floor
Philadelphia, PA 19104-2891
Telephone: (215) 568-3100
Facsimile: (215) 568-3439